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Mine file

ACT/035/002

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February 10, 1986

Mr. Lowell P. Braxton
Division of Oil, Gas & Mining
Utah Department of Natural Resources
355 West North Temple
2 Triad Center, Suite 350
Salt Lake City, Utah 84180

SUBJECT: Utah Copper Division Modernization Project

Dear Mr. Branxton:

Enclosed is the information requested by the Division during our meeting of February 5, 1986, regarding Phase I of our modernization project. Please contact me as soon as possible if additional information or clarification is required.

Very truly yours,

R. A. Malone /mf

R. A. Malone

/mf
Enclosure

cc: V. R. Rao, w/enc.
S. D. Taylor, w/enc.
A. M. Trbovich, w/enc.
J. B. Winter, w/enc.
K. May, w/enc.

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INFORMATION REQUESTED BY THE DIVISION OF OIL, GAS
AND MINING DURING THE MEETING OF FEBRUARY 5, 1986

1. Phase I involves 298,000 cubic yards of fill and 557,000 cubic yards of cut. The excess cut will be used as fill in Phase II. Cut and fill will balance over the entire scope of the project.

2. The fertilizer will be a 16-16-8 grade. The fertilizer will be applied at a rate of 250 pounds per acre.

3. Fertilizer will be applied by a spreader pulled by a tractor. Grading and ripping will be performed by a D-6 bulldozer.

4. The fertilizer will be applied in the late summer or early fall.

6. The agronomic procedure will include tilling and drill seeding, to be performed by a snowcat pulling a tilling/seeding machine. Depth of tilling will be three inches. Seed bed preparation will be in late summer and early fall.

6. Organic matter will not be tilled into the soil.

7. A mulch will be used, as specified on Table 1.

8. Road surfaces will be ripped to a one foot depth.

9. Top soil for post-construction use will be stored from one to three years, as a function of the area to be revegetated and the construction schedule. There will be no long-term storage of top soil. A map locating the top soil stockpile will be submitted in the very near future.

10. Any contaminated material (i.e. soil contaminated with oil) will be removed to an approved solid waste disposal area (i.e. Salt Lake County Trans-Jordan landfill).

11. The final reclamation seed mix is provied in Table 1.

12. A revised reclamation cost schedule is provied in Table 2.

13. The final reclamation seeding procedure breakdown is 95% by drill seeding and 5% by broadcost seeding. Total acreage for Phase I is 115 acres at the grinding plant and 48 acres along the access road right-of-way. The entire acreage may not be disturbed during Phase I.

NOTE: Items 7, 8, 11, 12 and 13 apply to final reclamation if the project is abandoned after Phase I. Abandonment is very unlikely. These items may also apply to final reclamation at the end of facility life, but may be changed based upon the plot study results or other factors.

TABLE 1
Seed Mix for Final Reclamation
Phase I

Species	Rate* (lbs./acre)
Grasses	
Agropyron dasystachyum (thickspike wheatgrass)	2.0
Agropyron intermedium (intermediate wheatgrass)	2.0
Agropyron smithii (western wheatgrass)	2.0
Agropyron trachycaulum (slender wheatgrass)	1.5
Elymus cinereus (Grate Basin wildrye)	2.0
Oryzopsis hymenoides (indian ricegrass)	1.0
Forbs	
Achillea millefolium (yarrow)	.1
Aster Chilensis (Pacific aster)	.1
Helianthus annuus (sunflower)	1.0
Linum lewisii (Lewis flax)	.5
Medicago sativa ('Ranger' alfalfa)	1.0
Melilotus officinalis (yellow sweetclover)	1.0
Penstemon strictus (Rocky Mountain penstemon)	.2
Shrubs	
Amelanchier alnifolia (serviceberry)	2.0
Artemisia tridentate ssp. vaseyana ('Hobble Cr.' mountain big sagebrush)	.1
Cercocarpus montanus (true-leaf mtn. mahogony)	2.0
Chrysothamnus nauseosus (rubber rabbitbrush)	.5
Total seed	19.0

*Rate is in terms of Pure Live Seed (PLS) for drill seeding only. The rate for broadcast seeding is double the drill rate.

After seeding, 2000-2500 lbs./acre of alfalfa hay mulch will be spread of the entire area and crimped into the soil with a mulch crimper.

TABLE 2
REVISED SITE RECLAMATION ESTIMATE FOR BOND ESTIMATE
Phase I

Item	Cost/Acre		Cost
Final Site Preparation (Dozer) $800/day x 1 day/20 acres	$ 40.00	X163 acres	$ 6,520
Seed Mix (drill) 19.0 PLS/acre x 15.84/PLS	$301.00	X155 acres	$46,655
Seed Mix (broadcast) 38.0 PLS/acre x 15.84/PLS	$602.00	X8 acres	$ 4,816
Fertilizer 250 pounds/acre x $0.1152/pound	$ 28.80	X163 acres	$ 4,694
Mulch 2000 lbs/acre x $50/ton	$ 50.00	X163 acres	$ 8,150
Equipment Rental (Tractor & Drill) $300/day x 1 day/29 acres	$ 15.00	X155 acres	$ 2,325
Fuel	$ 0.50	X155 acres	$ 78
Equipment Service and Maintenance	$ 1.90	X155 acres	$ 155
Manpower $50/day x 1 day/20 acres	$ 7.50	X163 acres	$ 1,223
Miscellaneous	$ 6.13	X163 acres	$ 1,000
Subtotal			$75,616
Contingency (10%)			$ 7,562
Total			$83,178